Colorado Department
of Public Health
and Environment

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Consumer Protection Division

6 CCR 1010-6

STATE BOARD OF HEALTH
RULES AND REGULATIONS GOVERNING SCHOOLS

(Chapters 1, 3 and 9 amended July 20, 2005, effective October 2, 2005)

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RULES AND REGULATIONS GOVERNING SCHOOLS IN THE STATE OF COLORADO

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Chapter One –
General Provisions

Administration

1-101 Purpose: The purpose of these "Rules and Regulations" is to provide minimum sanitation requirements for the operation and maintenance of schools and minimum standards for exposure to toxic materials and environmental conditions in order to safeguard the health of the school occupants and the general public.

1-102 Application: These "Rules and Regulations" shall apply to all schools, kindergarten through grade twelve, in the State of Colorado.

a. Schools in operation prior to the effective date of these regulations, which would require capitol expenditures to fully meet all of the design, construction and equipment requirements of these regulations, may be deemed acceptable if in good repair and capable of being maintained in a sanitary condition and pose no hazard to the health of the school occupants

b. Any school shall have a right to challenge any rule that they feel has been too rigidly applied. All challenges must be submitted to the Department in writing, stating the rule being challenged and the reason for the challenge. The Department shall hear the challenge and make recommendations pursuant to the statute.

c. These regulations shall not limit the powers and duties of local governments to issue such orders and adopt regulations as stringent as or more stringent than the provisions contained herein; as may be necessary for public health.

1-103 The Department recommends that all schools with laboratories, and/or engaging in industrial arts or hazardous vocational activities should be inspected a minimum of once per year. All other schools should be inspected a minimum of once per three years. If a school is provided with a non-community water system, as defined in the

Colorado Primary Drinking Water Regulations, 5 CCR § 1003-1 the water supply system should be inspected at least once annually and evaluated or assessed at every inspectional opportunity of the school or other regulated activities.

School food service inspections shall be conducted at the frequency established in the *Colorado Retail Food Establishment Rules and Regulations,* 6 CCR § 1010-2.

1-104 All public school district facilities that are constructed or remodeled must submit construction plans to the Colorado Department of Labor and Employment, Division of Labor, Public Safety Section.

DEFINITIONS

1-105 Definitions - For the purpose of these rules and regulations:

a. Approved - Shall mean acceptable to the Colorado Department of Public Health and Environment or its authorized agents or employees, based on determination as to conformance with appropriate standards and good public health practices.

b. Classroom - Any room used for instructional purposes.

c. Clean - Free from dirt and impurities.

d. Department - The Colorado Department of Public Health and Environment and its authorized agents and employees.

e. Extensively Remodeled - Means making any structural or other premises changes that result in; a building or construction permit being required by the Colorado Department of Labor and Employment, Division of Labor, Public Safety Section or Local Building Authority (routine maintenance or repairs shall not be construed as remodeling) or there is an increase or decrease of total space or modification of the layout of existing space.

f. Guidelines - Standards that are approved by the Department to provide for the protection of the school occupants.

g. Hazard - A situation or condition where there is a significant potential for injury, illness or death.

h. Refuse - All combustible or non-combustible, putrescible, or non-putrescible wastes.

i. Sanitary Facilities - Toilets, urinals, lavatories, showers, drinking fountains, utility sinks, and the service rooms provided for the installation and use of these units.

j. Sanitation - The application of measures intended to preserve and promote the public health; and the removal or neutralization of elements injurious to health and safety.

k. Sanitize - The application of a process or bactericidal treatment for a period of time sufficient to reduce the bacterial count, including pathogens, to a safe level.[1]

l. School - Any facility (public, proprietary, parochial, denominational, or eleemosynary) which is maintained for educational purposes for six or more persons except:

1. Structures or facilities used by a religious, fraternal, political or social organization exclusively for worship, religious instructional or entertainment purposes pertaining to that organization.

2. Educational programs and health facilities licensed by the Colorado Department of Public Health and Environment under provisions of Section 25-3-101, Colorado Revised Statutes (C.R.S.).

3. Child care facilities licensed by the Colorado Department of Human Services under provisions of Sections 26-6-102(1.5), (2.5)(a), (5), (5.1), (8), (9), (10)(a), C.R.S.

m. School Plant - A fixed location that includes the grounds and the academic, administration, and support structures and facilities.

n. Toxic Material - A chemical or other substance that has the ability to cause injury, illness or death to humans upon ingestion, inhalation or skin contact.

1-106 These regulations incorporate by reference (as indicated within) materials originally published elsewhere. Such incorporation does not include later amendments to or editions of the referenced material. The Department maintains certified copies of the complete text of any material incorporated by reference for public inspection during regular business hours and shall provide certified copies of the incorporated material

1 One method of demonstrating effective bactericidal treatment is by an average plate count of not more than 100 colonies, or not more than 12 ½ colonies per square inch of surface area examined. This is not intended as a routine field procedure, but only for the supplemental evaluation of sanitation procedure.

at cost upon request. Information regarding how to obtain or examine the incorporated material is available from the Division Director, Consumer Protection Division, Colorado Department of Public Health and Environment, 4300 Cherry Creek Drive South, Denver, CO 80246-1530.

Copies of the incorporated materials have been provided to the State Publications Depository and Distribution Center, and are available for interlibrary loan. Any incorporated material may be examined at any State Publications Depository Library.

Chapter Two
Grounds

General

2-101 The ground shall be self draining and free from depressions in which water may stand and be allowed to stagnate. The grounds shall be kept free from refuse, weed overgrowth, and other hazards.

2-102 Livestock or poultry shall be located more than fifty (50) feet from food service areas, offices, or classrooms except those offices and classrooms associated with animal husbandry activities.

Chapter Three
Sanitary Facilities And Controls

Water Supply

3-101 The water supply system shall provide a safe, potable, adequate water supply which meets the requirements of the Department, including the *Colorado Primary Drinking Water Regulations* 5 CCR § 1003-1 and where applicable, *Rules and Regulations For Well Construction, Pump Installation, and Monitoring and Observation Hole/Well Construction/Water Well Construction Rules*, 2 CCR § 402-2 or provisions of other approved local codes.

3-102 The water supply system shall deliver water at normal operating pressures (20 pounds per square inch minimum) to all plumbing fixtures.

3-103 When a total water service interruption exceeds a period of two (2) hours, the school shall be closed, unless dismissal of the pupils would be detrimental to their physical well being, or unless accessible approved alternatives for providing potable water are available that meet the requirements of the Department.

3-104 Faucets on non-potable water supply systems used for irrigation or similar purposes shall be physically separated from the potable water supply system and the faucets on the non-potable water system shall be clearly marked as unsafe for drinking.

3-105 The water storage, distribution system, treatment facilities and other mechanical equipment shall be protected from unauthorized access.

3-106 Where water is supplied by the school's independent water supply system, plans for the water system shall be submitted to the Department for approval prior to construction.

Sewage Disposal

3-201 Facilities, approved by the Department, shall be provided and maintained for the treatment and sanitary disposal of sewage.

3-202 Where a public sewer system is available, all plumbing fixtures and all building sewer lines shall be connected thereto. (Pursuant to Section 32-1-1006(1)(a)(I), C.R.S.)

3-203 If a public sewer system is not available, a sewage disposal system meeting the requirements of the Department shall be provided, and all plumbing fixtures, and

building sewer lines shall be connected thereto. (Pursuant to Sections 25-8-702(1) and/or 25-10-105 C.R.S.)

3-204 Where a total sewer service interruption exceeds a period of two (2) hours, the school shall be closed unless dismissal of the pupils would be detrimental to their physical well being, or unless accessible approved alternatives for the sanitary disposal of sewage are available that meet the requirements of the Department.

3-205 Where non-water carriage sanitary facilities are permitted, they shall be provided and installed in accordance with requirements of the Department.

3-206 In all new schools and schools modifying existing sewage disposal systems or expanding their usage beyond the design capacity of the sewage disposal system, plans shall be submitted to the Department for review and approval in accordance with provisions of Sections 25-8-702 and/or 25-10-105 C.R.S. prior to construction.

Refuse Disposal

3-301 The storage, collection, transportation and disposal of refuse shall be conducted to control odors, insects, rodents, accidents, or other nuisance conditions.

3-302 Durable non-absorbent, cleanable refuse containers shall be provided, kept in a clean condition and placed in readily accessible locations.

3-303 Exterior refuse storage areas shall be kept in a clean, sanitary condition. Refuse receptacles for exterior storage of garbage or putrescible wastes shall be provided with covers. Exterior refuse containers shall be stored on a smooth surface of non-absorbent material, such as a concrete or machine laid asphalt.

3-304 Exterior putrescible waste storage areas shall be located a minimum of twenty-five (25) feet from food service areas and classrooms.

3-305 Refuse shall be removed from the buildings and removed from the premises as often as necessary, but not less than twice weekly when putrescible wastes are stored.

Insect And Rodent Control And Classroom Animals

3-401 Rodents and insects shall be controlled to maintain the facility free from vermin.

3-402 Animals used for instructional purposes shall be maintained in a sanitary condition and in a manner to prevent health hazards or nuisance conditions. Their enclosures or pens shall be provided with easily cleanable surfaces and maintained in good

repair.

3-403 All pesticides shall be used in accordance with registered label directions and stored in a safe manner in an area accessible only to authorized personnel. Application of "restricted use pesticides" shall be performed only by a certified pesticide applicator.

Plumbing

3-501 In the absence of more stringent plumbing codes, the 2000 Colorado Plumbing Code (2000 Uniform Plumbing Code and amendments adopted by the State of Colorado "Examining Board of Plumbers") shall be used as a guideline for the installation and maintenance of all plumbing fixtures.

3-502 Plumbing fixtures shall be maintained in working order and in a clean sanitary condition. All plumbing fixtures shall be designed and maintained to be accessible by the age group being served.

3-503 The potable water supply shall be installed and maintained to preclude the possibility of backflow or backsiphonage of non-potable, used, unclean, polluted and contaminated water, or other substances, into any part of the potable water system.

3-504 A properly installed approved backflow prevention device shall be provided for all potable water supply outlets which are capable of receiving a hose connection.

Toilet, Lavatory And Bathing Facilities

3-601 Toilet, lavatory, bathing facilities and drinking fountains shall be provided and accessible for use by physically handicapped persons.

3-602 Drinking fountains shall be conveniently located on each floor and easily accessible to all school program activities. Drinking fountains shall not be located on sinks in science or art areas or in toilet rooms.

3-603 Use of common drinking cups or vessels is prohibited.

3-604 Toilet rooms shall be conveniently located at a travel distance of not more than two hundred (200) feet from any room to be served. All toilet rooms shall be provided with adequate lavatory facilities.

3-605 Soap and single service towels shall be available for all lavatory facilities, except that mechanical warm air dryers may be used in lieu of towels.

3-606 Hot and cold water or tempered water under operating pressures (20 PSI minimum) shall be available for bathing and washing. Hot water delivered to showers and lavatories shall be at least ninety degrees (90°F) and shall not exceed one hundred and twenty degrees (120°F). The temperature of hot water at other fixtures shall not exceed one hundred and forty degrees (140°F), except where necessary for sanitizing purposes.

3-607 Toilet bowls shall be equipped with non-absorbent, sanitary toilet seats. Toilet paper shall be available at each toilet mounted in an appropriate dispenser.

3-608 Floors, walls, and ceilings of all toilet, shower and locker rooms shall be smooth, easily cleanable, non-absorbent and shall be maintained in good repair and in a clean, sanitary condition.

3-609 In new construction, a floor drain and a keyed hose bib with a vacuum breaker shall be available for all toilet rooms having a total combination of two (2) or more water closets or urinals. The floors in these rooms shall slope to the floor drains.

3-610 A minimum of nine (9) square feet of floor area shall be provided per shower head in existing structures. New structures shall have twelve (12) square feet of floor area per shower head. Centralized shower heads shall be located at least three (3) feet apart. Showers shall be constructed to prevent water flow into the drying or dressing room space. Shower floors shall have a non-skid surface.

3-611 Functional water outlets shall be available, where necessary, at designated refuse storage areas and at high density student common use areas within fifty (50) feet of the building where heavy accumulations of refuse are generated to minimize hazards and to maintain such areas in a clean, safe condition.

3-612 Plans and specifications for the installation of sanitary facilities in existing schools being remodeled to increase the occupant load shall be submitted for review and approval in accordance with Departmental regulations prior to construction.

3-613 Swimming pools shall be constructed, operated, and maintained in accordance with the Colorado Department of Public Health and Environment S*wimming Pool and Mineral Bath Regulations,* 5 CCR § 1003-5. Plans for new or extensively remodeled pools shall be submitted to the Department for review and approval prior to construction.

Chapter Four
Building, Occupancy, Space And Use

4-101 The school plant and accessory buildings shall be maintained in good repair and in a clean sanitary condition.

4-102 Adequate space shall be provided for each person in classrooms, libraries, shops, laboratories, vocational training rooms, dining rooms, and other related activity rooms or areas to lessen the possibility of health hazards, and disease transmission. In the absence of more stringent guidelines the 1997 Uniform Building Code shall be used as a guideline for determining adequacy of space.

4-103 Where necessary, classroom windows shall be equipped with blinds, shades of translucent material, or other effective means to prevent glare and to control natural light.

4-104 Windows, when opened, shall not create a hazard.

4-105 Exposure to noise, dusts, toxic chemicals, or other hazards shall be controlled when the building or portion thereof is occupied during construction or remodeling.

4-106 When there is a change in classroom use, the design and construction of the classroom facilities shall be appropriate for the new use.

Chapter Five
Mechanical Requirements

Electrical

5-101 Schools shall be provided with operational electrical service and artificial lighting throughout the school.

5-102 The electrical system shall be maintained in good repair and shall not present a hazard to health and safety. In the absence of more stringent electrical codes, the 2002 National Electrical Code shall be used as a guideline for the installation, maintenance and use of the electrical system.

Lighting

5-201 The electrical lighting system shall provide the following average light level intensities: thirty-five (35) foot candles for classrooms, libraries, offices, laboratories and shops; fifty (50) foot candles for drafting, typing, sewing rooms and other rooms where close eye task activities are routinely conducted; twenty (20) foot candles for reception rooms, rest rooms, gymnasiums, service rooms, swimming areas and dining areas; ten (10) foot candles for auditoriums, locker rooms and stairways; and five (5) foot candles for corridors, hallways, storage and utility areas. Light level intensities shall be measured at the work surface or thirty (30) inches from the floor.

5-202 Extreme brightness ratios (glare and shadow) shall be minimized by avoiding glossy surfaces, by use of diffused lighting, by use of easily cleanable high light reflectance paints or other finishes for ceilings, walls, and floors, by use of window shades, routine cleaning and maintenance of electrical fixtures, and/or other measures necessary to prevent undue glare and maintain a high level of light effectiveness.

5-203 Appropriate measures shall be taken to assure that persons are not exposed to lighting, such as ultra-violet light, which may be harmful to the eyes.

Ventilation

5-301 Ventilation, mechanical or natural, shall be maintained to minimize health hazards including excessive drafts, extreme temperatures, humidity and temperature fluctuations. The American Society of Heating, Refrigeration and Air Conditioning Engineers 1989 Standard 62, Ventilation for Acceptable Indoor Air Quality shall be used as a guideline for proper indoor ventilation.

5-302 Ventilation system filters shall be cleaned or replaced regularly to prevent excessive accumulation of dust or debris.

5-303 Each room provided with an exhaust system shall have air supplied to the room equal to the amount to be exhausted. Windows shall not be used for the purpose of providing makeup air.

5-304 Unvented combustion heaters, kitchen stoves, or hot plates shall be prohibited for space heating purposes. Portable electric heaters with exposed elements shall not be used in any student activity area.

5-305 Hot plates, skillets, or similar type cooking appliances shall be used for food preparation only in kitchen, home economics room, or in rooms specifically designated and equipped for such use.

5-306 In schools where smoking of tobacco products is permitted indoors, such smoking must be confined to an enclosed room(s) and the building ventilation system shall effectively remove environmental tobacco smoke (ETS), so as to protect students and nonsmoking staff from its irritating and harmful effects. Smoking areas must also be segregated from common work and break areas, in order that workers who choose to refrain from ETS exposure can, in the normal course of their duties, do so.

Heating

5-401 The heating system provided shall be properly maintained and provide, in all occupied rooms, minimum room temperatures of sixty (60°) F sixty (60) inches above the floor in shops and gymnasiums and sixty-five (65°) F thirty (30) inches above the floor in elementary, secondary, and higher educational school classrooms, and at floor level in kindergarten and day care center areas.

Chapter Six
Equipment And Supplies

6-101 Instructional, athletic, recreational or other equipment used in or out of the classroom shall be maintained in a clean, safe condition.

6-102 Toys and equipment shall meet the current requirements of the Colorado Hazardous Substance Act (Section 25-5-501 and Section 25-5-508, et. seq., C.R.S.).

6-103 Gym equipment shall be kept clean and in good repair. Body contact equipment surfaces shall be routinely cleaned and sanitized.

6-104 Equipment used in physical therapy and special education shall be cleaned and sanitized after each use.

6-105 Facilities shall be available for the proper storage of clean clothing, and of athletic, instructional, and recreational equipment and supplies to minimize health hazards and to facilitate cleaning.

6-106 Cleaning materials, tools, and maintenance equipment shall be provided and shall be safely stored and secured in a locked area.

6-107 Pesticides, toxic or hazardous cleaning and maintenance chemicals and materials shall be stored separately in a ventilated and locked cabinet or area accessible only to authorized personnel. The ventilation requirement of this section may not be required in areas where minimum quantities of the above mentioned materials are stored for daily use. In the absence of more stringent guidelines flammable or combustible materials shall be stored in accordance with the 2000 National Fire Protection Association Code 30 Flammable and Combustible Liquids Code.

6-108 Kindergartens, health service rooms, or other areas, where sleeping is permitted shall be provided with sleeping facilities including cots or pads, with washable or disposable covers. These sleeping facilities shall be maintained in good repair and provided in a clean condition for each new user.

6-109 Towels and wash cloths, and other linens, where provided, shall be laundered to insure exposure to a water temperature of at least one hundred-thirty degrees (130°F) for a combined wash and rinse period of at least twenty-five (25) minutes or an equally effective washing procedure. Such linens, towels, and wash cloths shall be issued clean, used by only one person and shall be laundered after each use.

Chapter Seven
School Food Service

7-101 Each school preparing food either off site or on site, or serving food shall obtain a certificate of License as required by provisions of Section 25-4-1607(9)(a)(I) C.R.S.

7-102 Food service activities shall be conducted in conformance with the physical and operational requirements of the *Colorado Retail Food Establishment Rules and Regulations* 6 CCR § 1010-2.

7-103 Food served by the school but not prepared on site shall be obtained from sources inspected and approved by the Department. The food shall be transported, stored and served in a manner to prevent contamination or adulteration.

7-104 Dining activities shall be confined to rooms or areas designated by the school administrator. The dining area shall be maintained clean, and in a sanitary condition.

7-105 Plans and specifications for construction or alteration of food service facilities shall be submitted in accordance with the requirements of Section 25-4-1605 C.R.S.

Chapter Eight
Laboratory, Industrial, Art, And Vocational Hazards

General

8-101 Provisions shall be made for the protection of students engaging in arts, crafts, industrial arts, physical sciences, vocational, educational or any activities where hazardous chemicals, hazardous devices or hazardous equipment are used. These provisions include the development and posting of operating instructions, regulations and procedures.

8-102 Toxic or hazardous materials shall be stored in approved laboratory containers, separated by reactive group and stored in a ventilated, locked, fire-resistant area or cabinet. The ventilation requirement of this section may not be required where minimum quantities of such materials are stored for daily use.

8-103 Containers of chemicals, poisons, corrosive substances and flammable liquids shall be clearly labeled with the name of the material and the date the material entered the school.

8-104 Prohibited chemicals are those chemicals that pose an inherent, immediate and potentially life threatening risk, injury or impairment due to toxicity or other chemical properties to the students, staff or other occupants of the school. These chemicals are prohibited from use and/or storage at the school and the school is prohibited from purchasing or accepting donations of such chemicals. Prohibited chemicals are listed in Appendix A to this regulation.

8-105 Restricted chemicals are those chemicals that are restricted by use, and/or quantities. If restricted chemicals are present at the school, each chemical shall be addressed in the school's written emergency plan as addressed in sections 8-112 and 8-113 of these regulations. Restricted chemicals are listed in Appendix B to this regulation.

8-106 Restricted chemicals (demonstration use only) are a subclass in the restricted chemical lists that are limited to instructor demonstration. Students may not participate in the handling or preparation of restricted chemicals as part of a demonstration. If restricted chemicals (demonstration use only) are present at the school, each chemical shall be addressed in the school's written emergency plan as addressed in sections 8-112 and 8-113 of these regulations. Demonstration only chemicals are listed in Appendix B2 to this regulation.

8-107 Exposure to noise, or toxic liquids, dusts, gases, mists, fumes or vapors or other hazards shall be controlled to avoid health hazards.

8-108 All chemicals, solvents, and hazardous substances shall be inventoried by the school a minimum of once a year. The inventory shall include the name of the compound, the amount, and the date it entered the school. A copy of the inventory shall be kept on file in a location away from the areas where the aforementioned materials are stored.

8-109 A current material safety data sheet shall be provided for all poisonous, toxic, or hazardous substances and shall be available for review upon request.

8-110 In the absence of more stringent guidelines the 2000 National Fire Protection Association Code 30 Flammable and Combustible Liquids Code and 2000 National Fire Protection Association Code 45 Fire Protection for Laboratories Using Chemicals shall be used as guidelines for the proper storage, handling and use of chemicals in the school.

8-111 Refrigerators used for flammable compounds shall be prominently marked to indicate they meet the appropriate design requirements for safe storage of flammable liquids.

8-112 A written plan for response to and cleanup of chemical spills shall be provided by the school. A copy of the plan shall be kept on file in a location away from the areas where chemicals are stored.

8-113 A written plan that explains the proper storage, handling and disposal procedures for all poisonous, toxic or hazardous substances shall be on file in each school in a location away from the areas where these substances are stored and shall be available for review upon request.

8-114 A list of first aid procedures for accidental poisoning shall be posted. The telephone number and location of the nearest poison control center shall be posted near the telephone.

8-115 The storage, preparation, and consumption of food and drink is prohibited in any area where there are poisonous, toxic or hazardous substances.

8-116 Glassware shall be properly constructed and designed for its intended use and shall be handled and stored in a safe manner.

8-117 Aspirators or suction bulbs shall be used for drawing liquids into pipets. The mouth must not be used directly on the pipets.

8-118 Eye protection, that meet the American National Standards Institute 1989 Z87.1 Standard – *Practice for Occupational/Education Eye and Face Protection* must be worn by all students participating in, observing, or in close proximity to any experiment or activity which could result in eye injury. Eye protection glasses, goggles, face shields, and similar eye protection devices shall be issued clean and properly sanitized and stored in a protected place.

8-119 An easily accessible fire blanket must be provided in each laboratory or other area where an open flame is used.

8-120 Where there is exposure to skin contamination with poisonous, infectious or irritating materials, a hand washing facility shall be available.

8-121 An easily accessible operational eye wash fountain must be provided in each laboratory or other areas where corrosives or irritating chemicals are used. The eye wash fountain shall be clean and must be tested annually. The use of portable eye wash bottles as substitutes is not permitted.

8-122 An easily accessible operational safety shower, capable of providing continuous flowing water, shall be provided for each laboratory or other areas where corrosive or irritating chemicals are used. The safety shower can be centrally located so as to serve more than one area if doors are not locked, and convenient prompt access is available.

8-123 Master gas valves and electric shut-off switches shall be provided for each laboratory or areas where power equipment is used.

8-124 All emergency and safety equipment including master valves, shut off switches, eye wash fountains, safety showers, fire extinguishers (appropriate for the intended use), and fire-alarm pull stations and other similar equipment shall be tested at least once annually and labeled for high visibility.

8-125 Use of X-ray machines and other electronic devices producing ionizing or non-ionizing radiation and radioactive materials and equipment shall conform to the Colorado Department of Public Health and Environment Rules and Regulations Pertaining to Radiation Control, 6 CCR § 1007-1.

Ventilation

8-201 All areas shall be adequately ventilated so that exposures to hazardous or toxic materials are maintained to a safe level. In the absence of more stringent guidelines the American Conference of Governmental Industrial Hygienists 1989 Threshold

Limit Values and Biological Exposures Indices shall be used as a guideline to determine safe levels.

8-202 Local exhaust ventilation shall be provided so that contaminants are exhausted away from the student and not through the breathing zone.

8-203 Sufficient fume hood capacity ventilation shall be provided and shall be used for any activity producing hazardous toxic or noxious gases, mists, vapors, or dusts.

a. Hoods must exhaust directly to the outside and shall be located a minimum of 10 feet from any building air-intakes or building openings.

b. Discharges from any exhaust hood must meet applicable Colorado Air Pollution Standards.

c. A minimum face velocity of 100 feet/minute for general laboratory hoods must be provided.

d. Air flow of fume hoods must be tested at least once a school year.

Chapter Nine
Health Service

9-101 Basic first aid equipment and medical supplies including: gauze pads and roller gauze, adhesive tape, cold pack, plastic bags, disposable gloves, band-aids, handcleaner, small flashlight and extra batteries, scissors, tweezers, blanket and a triangular bandage shall be provided and kept conveniently available for emergency use.

a. The administration of syrup of ipecac and/or activated charcoal is prohibited without first consulting with a licensed physician or a poison control center.

b. First aid supplies and equipment with an expiration date shall be discarded and replaced once that date has past.

9-102 At all times during the school day and during school sponsored use periods, at least one staff member shall be on duty in each school who has a current certification from the American Red Cross Standard First Aid Course or an equivalent. A list of persons currently certified, as described above, shall be maintained in each school office.

9-103 Separate rooms or areas shall be available in every school for emergency use in providing care for persons who are ill, infested with parasites, or suspected of having communicable diseases.

9-104 Every emergency care room or area shall be provided with at least one cot for each four hundred (400) students or part thereof. Each cot and pillow shall have an easily cleanable, non-absorbent surface or cover which is sanitized after each use.

9-105 Medication administered by school personnel shall be inaccessible to children and shall be stored in the original container in a controlled area separated from food, cleaning compounds and other toxic substances. If refrigeration is required, the medication shall be stored:

a. In a separate refrigerator maintained for that purpose only, or

b. In an impervious secondary container in a designated area of a food storage refrigerator, separated from food and inaccessible to children.

9-106 Telephone or radio communications shall be provided and kept available in each school for emergency purposes.

9-107 A written plan with common procedures for handling emergency medical services shall be kept in each school. A current list of emergency services with telephone numbers shall be posted in one or more prominent place(s) in each school.

9-108 A written plan for handling internal and external natural or man made disasters shall be prepared by each school. A copy of this plan shall be maintained in each school. Disaster training and review will be conducted each year at each school. Principals, school personnel and students will periodically review and test each disaster plan.

Chapter Ten
Miscellaneous

10-101 An asbestos management plan complying with the provisions of the Colorado Air Quality Control Commission Regulation No. 8 shall be on file in each school and available for review by the Department.

10-102 Each school shall have completed radon tests by March 1, 1991. Schools constructed after the effective date of these rules and regulations shall complete radon tests within nineteen months of the date of occupancy. Schools remodeled after the effective date of these rules and regulations shall notify the department of such remodeling in order that the department may assess the need for any additional radon testing. Radon tests shall be conducted pursuant to the procedures described in the Environmental Protection Agency's, Radon Measurements in Schools, Revised Edition July 1993 (EPA Documents #402-RO-92-014). The results of these tests shall be on file at each school and available for review.

10-103 Procedures shall be established, as may be indicated, at each school district to provide for the protection of the health of the students and other users.

10-104 The school plant shall be maintained and used in a safe manner to minimize health, safety and fire hazards. Fire control methods shall conform to state and local fire prevention regulations.

10-105 School buses shall be operated and maintained to avoid health and safety hazards.

FINDINGS OF EMERGENCY AND JUSTIFICATION FOR EMERGENCY ADOPTION

REVISIONS TO THE RULES AND REGULATIONS
GOVERNING SCHOOLS IN THE STATE OF COLORADO

April 4, 2003 Rulemaking

Emergency adoption of these rule changes is imperatively necessary to comply with state statute and regulations and for the preservation of public health, safety or welfare. Compliance with the requirements of C.R.S. § 24-4-103 would be contrary to public interest. Emergency adoption of these rule changes is to comply with the requirements of C.R.S. § 24-4-103 for materials incorporated by reference based on the review conducted by the Colorado General Assembly, Office of Legislative Legal Services. The purpose of the emergency adoption is to assure that the sections 8-110, 8-118, and 8-201 of the Rules and Regulations Governing Schools in the State of Colorado do not expire on May 15, 2003 under the terms of Senate Bill 03-88. Failure to have the sections within the governing regulation would remove requirements for the proper storage of hazardous and toxic chemicals the use of appropriate eye protection and ventilation systems in laboratories and vocational areas in schools.

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
2-Butanol (Sec-Butyl Alcohol)	C2H5CH(OH)CH3	78-92-2	0	1	3	
Acetal			0	2	3	
Acetaldehyde	CH3CHO5	75-07-0	2	3	4	
Acetyl Chloride	CH3COCl	75-36-5	2	3	3	W
Acetyl Nitrate						
Acrolein	CH2CHCHO	107-02-8	3	4	3	
Acrylic Acid	H2CCHCO2H	79-10-7	2	2	2	
Acrylonitrile	CH2CHCN	107-13-1	2	4	3	
Alcohols (Allylic, Benzylic)						
Alkly-Substituted Cycloaliphatics						
Aluminum Hydrophosphide						
Aluminum Phosphide	AlP	20859-73-	2	4	4	W
Amatol						
Ammonal						
Ammonium Bromate						
Ammonium Chlorate						
Ammonium Hexanitrocobaltate						
Ammonium Nitrite						
Ammonium Perchlorate	NH4ClO4	7790-98-9	4	1	0	OX
Ammonium Periodate						
Ammonium Permanganate			3	0	0	OX
Ammonium Tetraperoxychromate						

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Antimony Compounds						
Arsenic And Arsenic Compounds						
Azides						
Azidocarbonyl Guanidine						
Barium	Ba	2	2	1		W
Barium Chlorate	Ba(ClO3)2*H2O	13477-00-	1	2	0	OX
Barium Oxide (Anhydrous)	BaO	1304-28-5	2	3	0	
Barium Peroxide	BaO2	1304-29-6	0	1	0	OX
Benzene	C6H6	71-43-2	0	2	3	
Benzene Diazonium Chloride						
Benzotriazole	C6H5N3	95-14-7	0	2	1	
Benzoyl Peroxide	(C6H5CO)2O2	94-36-0	4	1	4	OX
Benzyl Alcohol	C6H5CH2OH	100-51-6	0	2	1	
Bismuth Nitrate	Bi(NO3)3*5H2O	10035-06-	3	1	0	OX
Borane,Boranes, Diboranes						
Boron Tribromide			2	3	0	W
Boron Trifluoride			1	4	0	
Bromine Pentafluoride	Brf5	7789-30-2	3	4	0	W,O
Bromine Trifluoride			3	4	0	W,O
Butadiene	C4H6/CH2=(CH)2=CH	106-99-0	0	2	4	
Butenetroil Trinitrate						
Cadmium and Cadmium Compounds						
Calcium Nitrate, Anhydrous	Ca(NO3)2	10124-37-	3	1	0	OX
Calcium Permanganate	Ca(MnO4)2					
Carbon Tetrachloride	CCl4	56-23-5	0	3	0	
Chloral Hydrate	CCl3CH(OH)2	302-17-0				

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Chlorine	Cl2	7782-50-5	0	4	0	OX
Chlorine Dioxide	ClO2	10049-04-				OX
Chlorine Trifluoride			3	4	0	W,O
Chlorine Trioxide						
Chloroacetylene						
Chloroform	CHCl3	67-66-3	0		2	0
Chloropicrin	CCl3NO2	76-06-2	3	4	0	
Chloroprene						
Chlorotrifluoroethylene						
Chromium (IC) Chloride	CrCl3*6H2O	10060-12-	2	1	0	
Chromium (Powder)	Cr	7440-47-3	1	2	1	
Chromyl Chloride	CrO2Cl2	14977-61-	2	3	0	W
Cobalt (Powder)	Co	7440-48-4				
Colchicine	C22H25NO6	64-86-8	0	4	1	
Copper Acetylide						
Cumene	C6H5CH(CH3)2	98-82-8	1	2	3	
Cycloheptanone	C7H12O	502-42-1	2	3		
Cyclohexanol	C6H11OH	108-93-0	1	2	2	
Cyclopentene	C5H8	142-29-0	1	1	3	
Diacetylene						
Diazidoethane						
Diazodinitrophenol						
Diazomethane	CH2N2	334-88-3				
Dicyclopentadiene	C10H12	77-73-6	1	1	3	
Diisopropyl Ether	C6H14O	108-20-3	1	2	3	
Dinitrophenol	C6H3OH(NO2)2	51-28-5				
Dioxane	C4H8O2	123-91-1	1	2	3	
Dipentaerythritol Hexanitrate						

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Disulfur Dinitride						
Divinyl Acetylene			3		3	
Divinyl Ether			2	2	4	
Ethyl Ether	(C2H5)2O	60-29-7A	1	1	4	
Ethyl Nitrite			4	3	4	
Ethylene Glycol Dimethyl						
Ether (Glyme)			0	1	2	
Ethylene Glycol Dinitrate	C2H4N2O6	628-96-6				
Ethylene Oxide	C2H4O	75-21-8	3	3	4	
Formaldehyde	CH2O	50-00-0A	0	3	2	
Furan			1	1	4	
Glycol Dinitrate	C2H4N2O6	628-96-6				
Glycol Monolactate Trinitrate						
Grignard Reagents (Ether Solvents)						
Guanyl Nitrosaminoguanyl Hydrazine						
Hexyl Alcohol	CH3(CH2)4CH2OH	111-27-3	0	1	2	
HMX			4	3		
Hydrazoic Acid						
Hydrofluoric Acid	HF	7664-39-3	0	4	0	
Hydrogen Peroxide (>30%)	H2O2	7722-84-1	1	3	0	OX
Hydrogen Peroxide (60%)	H2O2	7722-84-1	3	2	0	OX
Hydrogen Sulfide	H2S	7783-06-4	0	4	4	
Isopropyl Ether			1	1	3	
Lead Arsenate	Pb3(AsO4)2	7784-40-9	0	2	0	
Lead Dinitride (Azide)	Pb3(N3)2	13424-46-				
Lead Dinitrorescorcinate (Styphnate)			4	3	4	
Lead Dioxide, Brown	PbO2	1309-60-0	3	3	0	OX
Lead Mononitrorescorcinate						
Lithium Nitrate	LiNO3	7790-69-4	3	2	0	OX

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Lithium Nitride						
Lithium Peroxide						
Magnesium (except Mg ribbon & turnings)	Mg	7439-95-4	2	0	1	W
Magnesium Peroxide						
Mannitol Hexanitrate						
Mercury And Mercury Compounds (except in sealed devices)						
Methyl Acetylene	C3H4	74-99-7	2	2	4	
Methyl Cyclopentane	C6H12	96-37-7	0	2	3	
Methyl Isocyanate	CH3NCO	624-83-9	2	4	3	W
Methyl Methacrylate, Monomer	C5H8O2	80-62-6	2	2	3	
M-Trinitrocresol						
Nessler's Reagent (Mercury Compound)	Hg+KI+NaOH	NA26				
Nicotine	C10H14N2	54-11-5	0	4	1	
Nitroglycerin			4	2	2	
Nitrosoguanidine						
Osmic Acid	OsO4	20816-12-	0	4	0	
Osmium Tetroxide	OsO4	20816-12-	0	4	0	
O-Toluidine	C7H9N	95-53-4	0	2	3	
Pentaerythritol Tetranitrate (PETN)		78-11-5				
Perchloric Acid	HClO4	7601-90-3	3	3	0	OX
Phenol	C6H6O	108-95-2	0	4	2	
Phenyl Thiourea	C7H8N2S	103-85-5A	0	4	0	
Phosphorus Halides and Oxides						
Phosphorus, Phosphides						

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Phthalic Anhydride, Picrates, Picramide, and Picryl Compounds.	C8H4O3	85-44-9	2	3	1	
Picric Acid	C6H3N3O7	88-89-1	4	3	4	
P-Nitrophenol	NO2C6H4OH	100-02-7	2	3	1	
Polyvinyl Nitrate						
Potassium Amide						
Potassium Cyanide	KCN	151-50-8	0	3	0	
Potassium Dinitrobenzfuroxan						
Potassium Nitrite	KNO2	7758-09-0	3	2	0	OX
Potassium Perchlorate	KClO4	7778-74-7	2	1	0	
Potassium Periodate	KIO4	7790-21-8	3	2	0	OX
Potassium Peroxide	KO2	12030-88-	3	3	0	
Potassium Superoxide	KO2	12030-88-	3	3	0	
RDX		121-82-4				
Sec-Butyl Alcohol (2-Butanol)	C4H10O	78-92-2A	0	1	3	
Silanes and Chlorosilanes						
Silicon Tetrachloride			2	3	0	W
Silver Acetylide						
Silver Cyanide	AgCN	506-64-9	1	3	0	
Silver Dinitrorescorcinate (Styphnate)						
Silver Fulminate (Cyanate)	AgOCN	3315-16-0	0	1	0	
Silver Nitride						
Silver Oxalate						
Silver Tetrazene						
Sodamide	H2NNa	7782-92-5	2	2	3	W
Sodium Amide	H2NNa	7782-92-5	2	2	3	W
Sodium Arsenate	Na3AsO4*12H2O	7778-43-0	0	3	0	

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Sodium Arsenite	NaAsO2	7784-46-5	0	3	0	
Sodium Chlorate	NaClO3	7775-09-9	2	1	0	OX
Sodium Chlorite			1	1	0	OX
Sodium Cyanide	NaCN	143-33-9	1	3	0	
Sodium Dithionite	Na2S2O4	7775-14-6	2	3	1	W
Sodium Hydrosulfite	Na2S2O4*2H2O	7775-14-6	2	2	1	
Sodium Methylate	CH3ONa	124-41-4	2	3	3	W
Sodium Perborate	UNDEFINED	7632-04-4	0	3	0	
Sodium Perchlorate			2	2	0	W,O
Sodium Permanganate	NaMnO4	10101-50-	2	2	1	OX
Sodium Peroxide	Na2O2	1313-60-6	2	3	0	W,O
Strontium Perchlorate		13450-97-				
Styrene Monomer	C8H8	100-42-5	2	2	3	
Sulfur Trioxide	SO3	7446-11-9	2	3	0	W
Sulfuryl Chloride (Sulfonyl)	Cl2O2S	7791-25-5	2	3	0	W
Sulfuryl Chloride Fluoride	ClFO2S	13637-84-	2	3	1	W
T-Butyl Hypochlorite						
Tetrafluoroethylene			3	2	4	
Tetrahydrofuran	C4H8O	109-99-9	1	2	3	
Tetrahydronaphthalene	C10H12	119-64-2	0	1	2	
Tetranitromethane		509-14-8				
Tetraselenium						
Tetranitride						
Tetrazene						
Tetryl		479-45-8	4	2	2	
Thallium Nitride						
Thermit	Fe2O3 + Al	69012-31-	0	0	0	

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Thermite Igniting Mixture Thiocarbonyl	Al	Unknown	1	0	1	
Tetrachloride	CCl4S	594-42-3	2	3	0	
Thionyl Chloride	SOCl2	7719-09-7	2	4	0	W
Titanium (Powder)	Ti	7440-32-6	2	1	1	
Titanium Tetrachloride			2	3	0	
Triethyl Aluminum		97-93-8				
Triethyl Arsine						
Triisobutyl Aluminum		100-99-2				
Trimethyl Aluminum		75-24-1				
Trinitroanisole						
Trinitrobenzene			4	2	4	
Trinitrobenzoic Acid						
Trinitronaphthalene						
Trinitroresorcinol						
Trinitrotoluene	C7H5N3O6	118-96-7	4	2	4	
Trisilyl Arsine						
Uranium Compounds						
Uranyl Acetate	UO2(C2H3O2)2	541-09-3	0	0	0	
Uranyl Nitrate	UO2(NO3)2.6H2O	10102-06-	0	1	0	
Urea Nitrate						
Vinyl Acetate	C4H6O2	108-05-4	2	2	3	
Vinyl Acetylene			3	2	4	
Vinyl Chloride	C2H3Cl	75-01-4	2	2	4	
Vinyl Ethers			2	2	4	
Vinylidene Chloride (1,1-DCE)	C2H2Cl2	75-35-4	2	2	4	
Zinc Peroxide						

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
2-Butanone (MEK)	CH3COC2H5	78-93-3A	0	1	3	
Acetamide	CH3CONH2	60-35-5	1	3	1	
Acetanilide	CH3CONHC6H5	103-84-4	0	3	1	
Acetic Acid	CH3COOH	64-19-7A	1	2	2	
Acetic Anhydride	(CH3CO)2O	108-24-7	1	3	2	W
Acetone	CH3COCH3	67-64-1	0	1	3	
Acetyl Halides						
Acetylcholine Bromide	CH3CO2C2H4N(C	66-23-9	0	2	0	
Acridine Orange	UNDEFINED	10127-02-	0	2	0	
Adipoyl Chloride	ClOC(CH2)4COCl	111-50-2	0	2	2	
Alizarin Red	UNDEFINED	130-22-3	0	2	1	
Alkyl Aluminum Chloride						
Aluminum	Al	7429-90-5	1	0	1	
Aluminum Acetate	Al(C2H3O2)2OH	142-03-0	1	1	0	
Aluminum Bromide	AlBr3	7727-15-3	1	3	1	
Aluminum Chloride, Hydrate	ALCL3*6H2O	7784-13-6	0	3	0	
Aluminum Fluoride	AlF3	7784-18-1	0	2	0	
Aluminum Hydroxide	Al(OH)3*3H2O	21645-51-	1	1	0	
Aluminum Nitrate	Al(NO3)3*9H2O	7784-27-2	0	1	0	OX
Aluminum Tetrahydroborate						

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Ammonia, Anhydrous (use restrictions)	NH3	7664-41-7	0	3	1	
Ammonia, Liquid	NH3	1336-21-6	0	3	1	
Ammonium Acetate	NH4C2H3O2	631-61-8	1	1	1	
Ammonium Bicarbonate	NH4HCO3	1066-33-7	1	1	0	
Ammonium Bichromate	(NH4)2Cr2O7	7789-09-5	1	1	1	OX
Ammonium Bromide	NH4Br	12124-97-	0	2	0	
Ammonium Carbonate	NH4CO3	10361-29-	2	2	0	
Ammonium Chloride	NH4Cl	12125-02-	0	2	0	
Ammonium Chromate	(NH4)2CrO4	7788-98-9	1	1	1	OX
Ammonium Fluoride	NH4F	12125-01-	0	3	0	
Ammonium Hydroxide	NH4OH	1336-21-6	0	3	1	
Ammonium Iodide	NH4I	12027-06-	1	2	0	
Ammonium Molybdate	(NH4)6Mo7O24*4H	12054-85-	1	2	0	
Ammonium Nitrate (500 g limit)	NH4NO3	6484-52-2	3	0	0	OX
Ammonium Oxalate	(NH4)2C2O4*H2O	6009-70-7	1	3	0	
Ammonium Phosphate, Dibasic	(NH4)2H2PO4	7783-28-0	1	2	0	
Ammonium Phosphate, Monobasic	NH4H2PO4	7722-76-1	0	2	0	
Ammonium Sulfate	(NH4)2SO4	7783-20-2	0	3	0	
Ammonium Sulfide	(NH4)2S*H2O	12135-76-	0	3	3	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Ammonium Tartrate	(NH4)2C4H4O6	3164-29-2	0	2	0	
Ammonium Thiocyanate	NH4SCN	1762-95-4	1	2	1	
Amyl Acetate	CH3COOC5H11	628-63-7	0	1	3	
Amyl Alcohol(N)	CH3(CH2)3CH2OH	71-41-0A	0	1	3	
Aniline	C6H5NH2	62-53-3	0	3	2	
Aniline Hydrochloride	C6H5NH2*HCL	142-04-1	3	1		
Anisoyl Chloride	C8H7ClO2	100-07-2	0	3	2	
Barium Acetate	Ba(C2H3O2)H20	543-80-6	0	2	0	
Barium Carbide						
Barium Chloride,						
Hydrate	BaCl2*2H2O	10326-27-	0	3	0	
Barium Nitrate	Ba(NO3)2	10022-31-	0	1	0	OX
Benzaldehyde	C6H5CHO	100-52-7	0	2	2	
Benzene Phosphorus Dichloride						
Benzoic Acid	C6H5COOH	65-85-0	2	1		
Benzyl Chloride	C6H5CH2Cl	100-44-7	1	3	2	
Benzyl Sodium						
Benzylamine	C6H5CH2NH2	100-46-9	0	3	2	
Beryllium Tetrahydroborate						
Biphenyl (Diphenyl)	C6H5C6H5	92-52-4	0	2	1	
Bismuth Pentafluoride	BiF5	7787-62-4	0	1	0	
Boric Acid	H3BO3	10043-35-	0	2	0	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Boron Bromodiiodide						
Boron Dibromoiodide						
Boron Phosphide						
Boron Trichloride						
Bromine Monofluoride						
Bromine Water	Br2 + H2O	7726-95-6				OX
Bromobenzene	C6H5Br	108-86-1	0	2	2	
Bromodiethylaluminum						
Bromoform	CHBr3	75-25-2	0	3	0	
Butanol (N-Butyl Alcohol)	CH3(CH2)3OH	71-36-3	0	1	3	
Butyric Acid	CH3CH2CH2COH	107-92-6	0	3	2	
Calcium (100 g limit)	Ca	7440-70-2	2	3	1	W
Calcium Bromide	CaBr2	7789-41-5	1	1	0	
Calcium Hypochlorite	Ca(OCl)2	7778-54-3	1	3	0	OX
Calcium Nitrate Tetrahydrate	Ca(NO3)2*4H2O	13477-34-	1	2	0	OX
Calcium Phosphide						
Camphor (+/-)	C10H16O	21368-68-	0	0	2	
Carbon Disulfide (BI)	CS2	75-15-0	0	2	3	
Ceric (IV) Sulfate	Ce(SO4)2*4H2O	13590-82-	0	3	0	OX

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Cesium Amide						
Cesium Phosphide						
Chlorine Monofluoride						
Chlorine Pentafluoride						
Chloroacetic Acid	C2H3ClO2	79-11-8B	0	3	1	
Chloroacetyl Chloride	C2H2Cl2O/ClCH2C	79-04-9	1	3	0	
Chlorobenzene	C6H5Cl	108-90-7	0	2	3	
Chlorodiisobutyl Aluminum						
Chlorophenyl Isocyanate	C7H4ClNO	3320-83-0				
Chromic Acid	CrO3	1333-82-0	1	3	0	OX
Chromium (IC) Nitrate	Cr(NO3)3*9H2O	7789-02-8	1	3	0	OX
Chromium Sulfate	Cr2(SO4)3*nH2O	10101-53-	0	2	0	
Chromium Trioxide	CrO3	1333-82-0	1	3	0	
Cobalt (ous) Nitrate	Co(NO3)2*6H2O	10026-22-	0	2	0	OX
Cupric Bromide, Anhydrous	CuBr2	7789-45-9	0	2	0	
Cyclohexane	CH2(CH2)4CH2	110-82-7	0	1	3	
Dichlorobenzene	C6H4Cl2	106-46-7B	0	2	2	
Dichloroethane	C2H4Cl2	107-06-2B	0	2	3	
Dichloromethane	CH2Cl2	75-09-2A	0	2	1	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Diethyl Aluminum Chloride	C4H10AlCl	96-10-6				
Diethyl Zinc	C4H10Zn	557-20-0				
Diisopropyl Beryllium						
Dimethyl Magnesium						
Diphenyl Diisocyanate						
Diphenylamine	(C6H5)2NH	122-39-4	0	3	1	
Ethanol	C2H5OH	64-17-5B	0	0	3	
Ethyl Acetate	CH3COOC2H5	141-78-6	0	1	3	
Ethyl Alcohol	C2H5OH	64-17-5A	0	0	3	
Ethyl Methacrylate	CH2CCH3COOC2	97-63-2	0	2	3	
Ethylene Dichloride	C2H4Cl2	107-06-2A	0	2	3	
Ethylenediamine	NH2CH2CH2NH2	107-15-3	0	3	2	
Faa Solution	UNDEFINED	NA14	0	2	3	
Fehlings Solution A	UNDEFINED	7758-99-8	1	3	0	
Fehlings Solution B	UNDEFINED	NA15	1	3	0	
Ferric Chloride, Anhydrous	FeCl3	7705-08-0	1	3	0	
Ferric Nitrate	Fe(NO3)3*9H2O	7782-61-8	1	1	0	OX
Fluorine Monoxide						
Fluorosulfonic Acid						

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Formalin	CH2O	50-00-0B	0	2	2	
Formic Acid	HCOOH	64-18-6	0	3	2	
Gasoline	UNDEFINED	8006-61-9	0	1	3	
Glutaraldehyde	OCH(CH3)3CHO	111-30-8	1	3	0	
Gold Acetylide						
Hematoxylin	C16H14O6*3H2O	517-28-2	1	1	0	
Heptane, N-	CH3(CH2)5CH3	142-82-5	0	1	3	
Hexamethylene Diisocyanate	C8H12N2O2	822-06-0	0	1	2	W
Hexamethylenediamine	H2N(CH2)6NH2	124-09-4	0	3	2	
Hexane, N-	CH3(CH2)4CH3	110-54-3	0	1	3	
Hydriodic Acid	HI	10034-85-	0	3	0	
Hydrobromic Acid	HBr	10035-10-	0	3	0	
Hydrochloric Acid	HCl	7647-01-0	0	3	0	
Hydrogen Peroxide (30% or less)	H2O2		1	3	0	OX
Hydroquinone	C6H4(OH)2	123-31-9	0	2	1	
Hydroxylamine						
Hydrochloride	NH2OH*HCl	5470-11-1	1	3	1	
Iodine	I2	7553-56-2	1	3	0	OX
Iodine Monochloride	ICl	7790-99-0	1	3	0	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Iron	Fe	7439-89-6	1	3	1	
Isoamyl Alcohol	(CH3)2CHCH2CH2	123-51-3A	0	1	2	
Isobutyl Alcohol	(CH3)2CHCH2OH	78-83-1	0	1	3	
Isopentyl Alcohol	(CH3)2CHCH2CH2	123-51-36	0	1	3	
Isopropyl Alcohol	(CH3)2CHOH	67-63-0	0	1	3	
Kerosene	UNDEFINED	8008-20-6	0	0	2	
Lead Nitrate	Pb(NO3)2	10099-74-	0	1	0	OX
Lead Oxide, Red	Pb3O4	1314-41-6	1	3	1	OX
Lead Peroxide (DI)	PbO2	1309-60-0	1	3	0	OX
Lithium Amide						
Lithium Bromide	LiBr	7550-35-8	0	2	0	
Lithium Ferrosilicon						
Lithium Silicon						
Lithium Sulfate	Li2SO4*H2O	10102-25-	0	2	0	
Lye	NaOH	1310-73-2	1	3	0	
Magnesium (ribbon)	Mg	7439-95-4	2	0	1	W
Magnesium Nitrate	Mg(NO3)2*6H2O	13446-18-	0	1	0	OX
Manganese Carbonate	MnCO3	598-62-9	1	0	0	
Manganese Dioxide	MnO2	1313-13-9	1	2	0	OX
Manganese Nitrate (ous)	Mn(NO3)2*6H2O	10377-66-	0	3	0	OX

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Manganese Oxide	MnO2	1313-13-9	0	1	0	
Methyl Alcohol	CH3OH	67-56-1	0	1	3	
Methyl Aluminum Sesquibromide		C3H9Al2Br3				
Methyl Aluminum Sesquichloride	C3H9Al2Cl3	12542-85-				
Methyl Ethyl Ketone (MEK)	CH3COC2H5	78-93-3B	0	1	3	
Methyl Magnesium Bromide	CH3BrMg	75-16-1				
Methyl Magnesium Chloride	CH3ClMg	676-58-4				
Methyl Magnesium Iodide	CH3IMg					
Methylene Chloride	CH2CL2	75-09-2B	0	2	1	
Naphthalene	C10H8	91-20-3	0	2	2	
Napthol-1 (A)	C10H7OH	90-15-3	1	3	1	
N-Butyl Alcohol	C6H10O	71-36-3B	0	1	3	
N-Butyl Lithium						
Nickel Antimonide						
Nickel(II) Nitrate	Ni(NO3)2*6H2O	13478-00-	1	2	0	
Nickel(II) Sulfate	NiSO4*6H2O	10101-97-	0	2	0	
Nitric Acid	HNO3	7697-37-2	0	3	0	OX
Nitrobenzene	C6H5NO2	98-95-3	1	3	2	
Nitrogen	N2	7727-37-9	0	3	0	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Octyl Alcohol	CH3(CH2)6CH2OH	111-87-5	0	1	2	
O-Dichlorobenzene	C6H4Cl2	95-50-1	0	2	2	
Oxalic Acid, Hydrate	H2C2O4*2H2O	6153-56-6	0	2	1	
Oxygen	O2	7782-44-7	0	3	0	OX
P-Dichlorobenzene	C6H4Cl2	106-46-7	0	2	2	
Pentyl Alcohol (Amyl)	CH3(CH2)4OH	71-41-0B	0	1	3	
Petroleum Ether (500 ml limit)	UNDEFINED	8032-32-4	0	1	4	
Phosphoric Acid	H3PO4	7664-38-2	0	3	0	
Phthalic Acid	C6H4(COOH)2	88-99-3	1	0	1	
Polyphenyl Polymethyl Isouanta						
Polyvinyl Alcohol	CH2CH(OH)	9002-89-5	0	0	2	
Potassium Bromate	KBrO3	7758-01-2	0	2	0	OXPotassium
Chromate	K2CrO4	7789-00-6	1	3	0	OX
Potassium Dichromate	K2Cr2O7	7778-50-9	1	3	1	OX
Potassium Ferricyanide	K3Fe(CN)6	13746-66-	1	1	0	
Potassium Ferrocyanide	K4Fe(CN)6*3H2O	14459-95-	1	1	0	
Potassium Hydroxide	KOH	1310-58-3	1	3	0	
Potassium Iodate	KIO3	7758-05-6	1	1	0	OX
Potassium Nitrate	KNO3	7757-79-1	0	1	0	OX

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Potassium Permanganate	KMnO4	7722-64-7	0	1	0	OX
Potassium Persulfate	K2S2O8	7727-21-1	0	1	0	OX
Potassium Sulfide	K2S	1312-73-8	0	3	1	
Propane (use restrictions)	CH3CH2CH3	74-98-6	0	1	4	
Propionic Acid	C3H6O2	79-09-4	0	2	2	
Propyl Alcohol	C3H8O	71-23-8	0	1	3	
Pyridine	C5H5N	110-86-1	0	3	3	
Pyrosulfuryl Chloride						
Silver Nitrate	AgNO3	7761-88-8	0	1	0	OX
Silver Sulfate	Ag2SO4	10294-26-	0	2	0	
Sodium Bisulfite	NaHSO3	7631-90-5	1	1	0	
Sodium Chromate	Na2CrO4	7775-11-3	1	3	0	OX
Sodium Cobaltinitrite	Na3Co(NO2)6	13600-98-	0	2	0	OX
Sodium Dichromate, Hydrate	Na2Cr2O7*2H2O	7789-12-0	1	1	0	
Sodium Fluoride	NaF	7681-49-4	0	3	0	
Sodium Hydroxide	NaOH	1310-73-2	1	3	0	
Sodium Hypochlorite	NaClO	7681-52-9	1	2	0	
Sodium Iodate	NaIO3	7681-55-2	1	1	0	OX
Sodium Iodide	NaI	7681-82-5	1	2	0	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Sodium Meta-Bisulfite	Na2S2O5	7681-57-4	1	3	0	
Sodium Nitrate	NaNO3	7631-99-4	1	1	0	OX
Sodium Nitrite	NaNO2	7632-00-0	1	2	0	OX
Sodium Phosphate, Tribasic	Na3PO4*12H2O	7601-54-9	1	2	0	
Sodium Potassium Alloy						
Sodium Sulfide	Na2S*9H2O	1313-84-4	1	3	1	
Sodium Thiocyanate	NaSCN	540-72-7	1	3	0	
Sodium Thiosulfate	Na2S2O3*5H2O	10102-17-	1	0	0	
Stannic Chloride	SnCl4	7646-78-8	1	3	0	
Strontium Nitrate	Sr(NO3)2	10042-76-	0	1	0	OX
Sulfur Chloride	Cl2S2	10025-67-	1	2	1	
Sulfur Pentafluoride						
Sulfuric Acid (<10%)	H2SO4	7664-93-9	0	3	0	
Sulfuric Acid (>10%) (2.5 l limit)	H2SO4	7664-93-9	2	3	0	W
T-Butanol	(CH3)3COH	75-65-0	0	1	3	
Terpineol	C10H17OH	98-55-5	0	0	2	
Thiophosphoryl Chloride	Cl3SP	3982-91-0	0	3	0	
Tin	Sn	7440-31-5	1	1	1	
Toluene	C7H8	108-88-3	0	2	3	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Toluene Diisocyanate	C9H6N2O2	584-84-9	1	3	1	
Toluidine Blue	CH3C6H4NH2	95-53-4	0	3	2	
Trichloroethane-1,1,1	C2H3Cl3	71-55-6	1	3	1	
Trichloroethylene	C2HCl3	79-01-6	0	2	1	
Triethanolamine	C6H15NO3	102-71-6	1	2	1	
Triethyl Stibine						
Trimethylpentane 2,2,4	C8H18	540-84-1	0	0	3	
Tri-N-Butyl Aluminum						
Trioctyl Aluminum						
Triphenyl Tetrazolium Chloride	C19H15N4Cl	298-96-4	1	2	1	
Tripropyl Stibine						
Trisodium Phosphate	Na3H3PO4	7601-54-9	1	2	0	
Trivinyl Stibine						
Tungsten	W	7440-33-7	1	1	2	
Turpentine	C10H16	8006-64-2	0	1	3	
Vanadium Trichloride	VCl3	7718-98-1				
Xylene	C8H10	1330-20-7	0	2	3	
Zinc (Powder)	Zn	7440-66-6	1	1	1	W
Zinc Acetylide						

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Zinc Nitrate (500 g limit)	Zn(NO3)2*6H2O	10196-18-	2	1	1	OX
Zinc Phosphide	Zn3P2	1314-84-7	1	3	3	

Appendix B2 – Restricted Chemicals (Demonstration Use Only)

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Aluminum Chloride, Anhydrous (25 g limit)	AlCl3	7446-70-0	2	3	0	W
Ammonium Dichromate (100 g limit)	(NH4)2Cr2O7	7789-09-5	3	4	1	OX
Ammonium Persulfate (100 g limit)	(NH4)2S2O8	7727-54-0	3	2	0	OX
Antimony Metal (50 g limit)	Sb	7440-36-0				
Bromine (3 - 1 g ampules limit)	Br2	7726-95-6	0	4	0	OX
Calcium Carbide (100 g limit)	CaC2	75-20-7	2	1	3	W
Chromium Oxide (20 g limit)	Cr2O3	1308-38-9	3	4	0	OX
*Collodion (100 ml limit)	C25H33O13(NO3)7	9004-70-0	0	1	4	
*Cyclohexanone (100 ml limit)	C6H10O	108-94-1	0	1	2	
*Cyclohexene (100 ml limit)	C6H10	110-83-8	0	1	3	
*Cyclopentanone (100 ml limit)	C5H8O	120-92-3	0	2	3	
*Diethyl Ether (500 ml limit)	(C2H5)2O	60-29-7B	1	2	4	
*Diglyme (500 ml limit)	(CH3O)CH2	111-96-6	1	1	2	
Dinitrophenylhydrazine (100 g limit)	C6H6N4O4	119-26-6	2	1	2	
Hydrides, Borohydrides (100 g limit)						

Appendix B2 – Restricted Chemicals (Demonstration Use Only)

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Hydrogen (limited to 2 cu ft lecture bottle)	H2	1333-74-0	0	0	4	
Lithium (20 g limit)	Li	7439-93-2	2	1	1	W
Magnesium (turnings) (100 g limit)	Mg	7439-95-4	2	0	1	W
*Methyl Isobutyl Ketone (MIBK) (250 ml limit)	CH3COCH2CH(CH)	108-10-1	1	2	3	
Pentane (100 ml limit)	C5H12	109-66-0	0	1	4	
Phosphorus, Red (Amorphous) (50 g limit)	P	7723-14-0	1	1	1	W
Potassium (1- bottle w/5 demonstration-size pieces)	K	7440-09-7	2	3	1	W
Potassium Chlorate (100 g limit)	KClO3	3811-04-9	0	2	0	OX
Silver Oxide (100 g limit)	Ag2O	20667-12-	2	1	1	OX
Sodium (100 g limit)	Na	7440-23-5	2	3	3	W
Wright's Stain (HG Containing) (100 ml limit)	Undefined	68988-92-	0	0	3	

(*) Indicates those compounds that have peroxide forming potential that must be addressed in the written chemical management plan.